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ABSTRACT

An apparatus and method for irradiating target objects, especially medical stents for *in vivo* implantation. A linear accelerator provides a high energy electron beam that impinges upon and is received by an x-ray conversion target. The x-ray conversion target is activated by either a static or dynamically moveable electron beam to generate and emit an x-ray flux so as to efficiently intercept the target object. The x-ray flux is directed to the target object for a desired time period and is of sufficiently high energy to efficiently impart radioactive properties to the target object. Alternatively, the target object is positioned within the path of the x-ray flux or is translated within the path during irradiation. Mechanical transport assemblies such as a carousel, rotational and/or linear translator and/or movement tube system also may be provided.